

**ebm-papst Mulfingen GmbH & Co. KG**

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.ebmpapst.com

www.ebmpapst.com

Limited partnership · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

**Nominal data**

| Type                        | A2D250-AA02-47     |      |      |      |      |
|-----------------------------|--------------------|------|------|------|------|
| Motor                       | M2D068-DF          |      |      |      |      |
| Phase                       |                    | 3~   | 3~   | 3~   | 3~   |
| Nominal voltage             | VAC                | 230  | 230  | 400  | 400  |
| Wiring                      |                    | Δ    | Δ    | Y    | Y    |
| Frequency                   | Hz                 | 50   | 60   | 50   | 60   |
| Method of obtaining data    |                    | fa   | fa   | fa   | fa   |
| Valid for approval/standard |                    | CE   | CE   | CE   | CE   |
| Speed (rpm)                 | min <sup>-1</sup>  | 2650 | 2950 | 2650 | 2950 |
| Power consumption           | W                  | 110  | 160  | 110  | 160  |
| Current draw                | A                  | 0.38 | 0.45 | 0.22 | 0.26 |
| Max. back pressure          | Pa                 | 250  | 300  | 250  | 300  |
| Max. back pressure          | inH <sub>2</sub> O | 1    | 1.2  | 1    | 1.2  |
| Min. ambient temperature    | °C                 | -25  | -25  | -25  | -25  |
| Max. ambient temperature    | °C                 | 70   | 40   | 70   | 40   |

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change

**Data according to ErP Directive**

|                                   |   | Actual | Req. 2015 |                               |                   |      |
|-----------------------------------|---|--------|-----------|-------------------------------|-------------------|------|
| 01 Overall efficiency $\eta_{es}$ | % | 28.1   | 28.1      | 09 Power consumption $P_e$    | kW                | 0.13 |
| 02 Measurement category           |   | A      |           | 09 Air flow $q_v$             | m <sup>3</sup> /h | 1050 |
| 03 Efficiency category            |   | Static |           | 09 Pressure increase $p_{fs}$ | Pa                | 121  |
| 04 Efficiency grade N             |   | 40     | 40        | 10 Speed (rpm) n              | min <sup>-1</sup> | 2600 |
| 05 Variable speed drive           |   | No     |           | 11 Specific ratio*            |                   | 1.00 |

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

\* Specific ratio =  $1 + p_g / 100\,000\text{ Pa}$ 

LU-69121



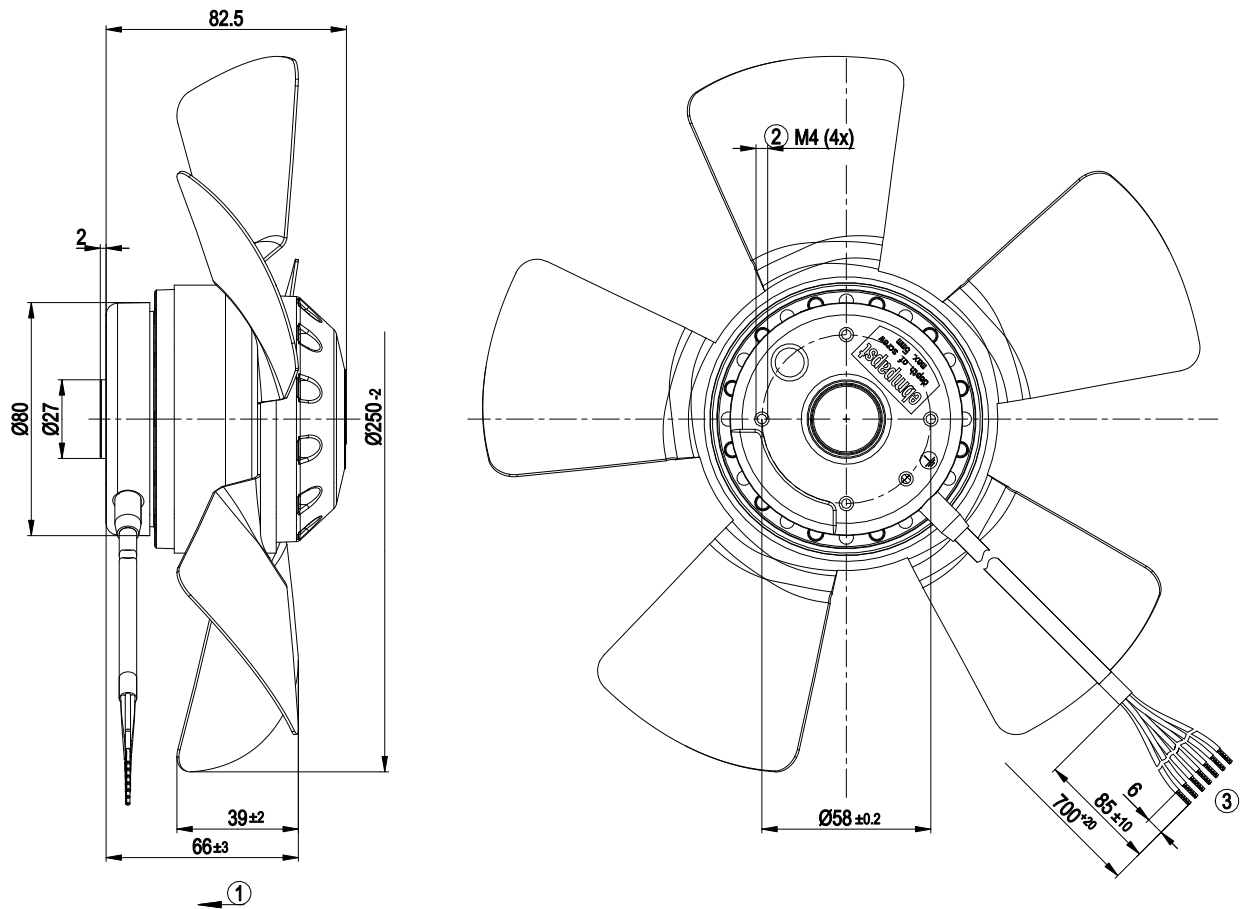
### Technical description

|  |  |
|--|--|
| Weight   | 2.2 kg   |
| Fan size   | 250 mm   |
| Rotor surface  | Painted black  |
| Blade material   | Sheet steel, painted black                                   |
| Number of blades   | 5  |
| Airflow direction  | "V"  |
| Direction of rotation  | Counterclockwise, viewed toward rotor                        |
| Degree of protection   | IP44; installation- and position-dependent as per EN 60034-5 |
| Insulation class   | "B"  |
| Moisture (F) / Environmental (H) protection class                          | F5   |
| Max. permitted ambient temp. for motor (transport/storage)                 | + 80 °C  |
| Min. permitted ambient temp. for motor (transport/storage)                 | - 40 °C  |
| Installation position  | Any  |
| Condensation drainage holes  | None   |
| Mode   | S1   |
| Motor bearing  | Ball bearing   |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | < 0.75 mA  |
| With cable   | Lateral  |
| Protection class   | I (with customer connection of protective earth)             |
| Conformity with standards  | EN 60335-1   |

## AC axial fan

straight blades (A series), single-intake

## Product drawing

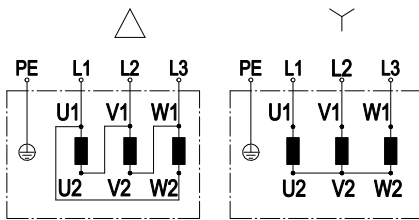


|   |   |
|---|---|
| 1 | Direction of air flow "V"                             |
| 2 | Max. clearance for screw 5 mm                         |
| 3 | Cable PVC 7G 0.5 mm <sup>2</sup> , 7x crimped splices |

# AC axial fan

straight blades (A series), single-intake

## Connection diagram



Change of rotation direction by reversing two phases

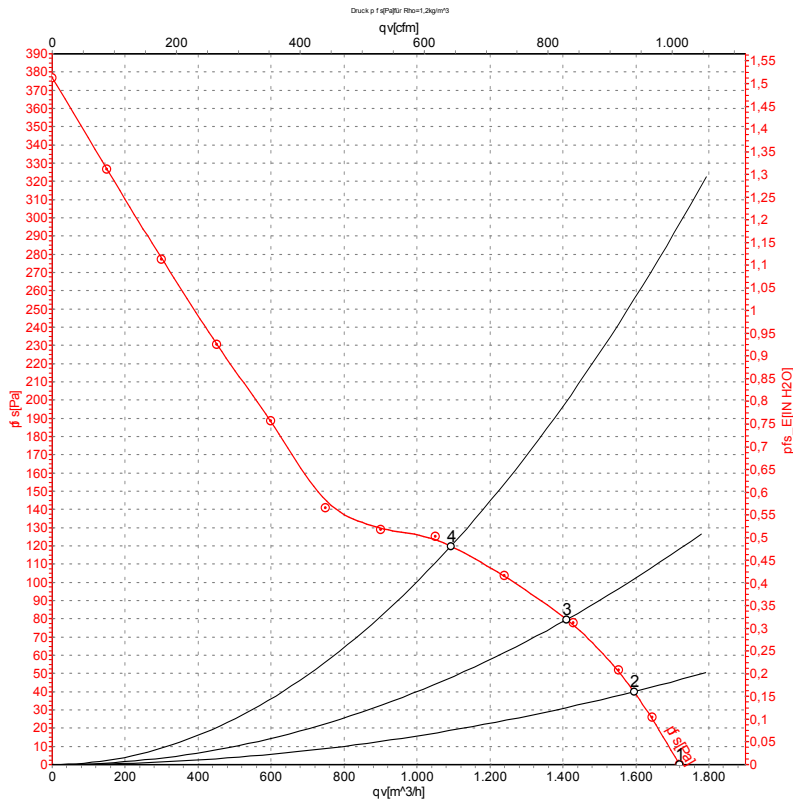
|    |                   |    |                  |    |                 |
|----|-------------------|----|------------------|----|-----------------|
|    | Three-phase motor | Δ  | Delta connection | Y  | Star connection |
| L1 | = U1 = black      | L2 | = V1 = blue      | L3 | = W1 = brown    |
| U2 | green             | V2 | white            | W2 | yellow          |
| PE | green/yellow      |    |                  |    |                 |



# AC axial fan

straight blades (A series), single-intake

## Curves: Air performance 50 Hz Y



Measurement: LU-69121-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

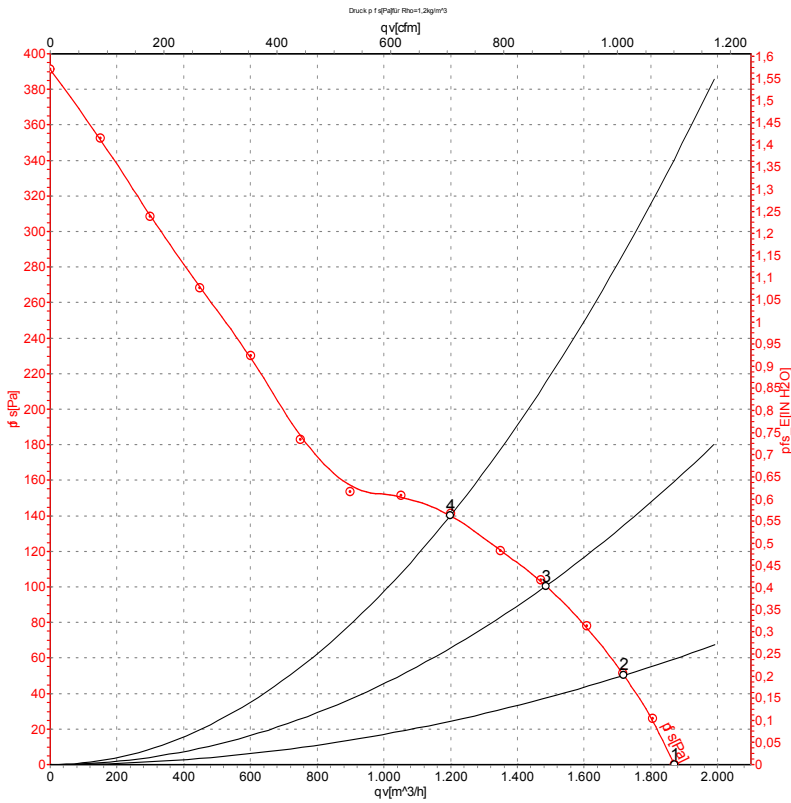
## Measured values

|   | Wired | U   | f  | n                 | P <sub>e</sub> | I    | qv                | p <sub>fs</sub> | qv   | p <sub>fs</sub>    |
|---|-------|-----|----|-------------------|----------------|------|-------------------|-----------------|------|--------------------|
|   |       | V   | Hz | min <sup>-1</sup> | W              | A    | m <sup>3</sup> /h | Pa              | CFM  | inH <sub>2</sub> O |
| 1 | Y     | 400 | 50 | 2650              | 110            | 0.22 | 1720              | 0               | 1010 | 0.00               |
| 2 | Y     | 400 | 50 | 2620              | 126            | 0.23 | 1595              | 40              | 940  | 0.16               |
| 3 | Y     | 400 | 50 | 2600              | 131            | 0.24 | 1410              | 80              | 830  | 0.32               |
| 4 | Y     | 400 | 50 | 2595              | 131            | 0.24 | 1090              | 120             | 645  | 0.48               |

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase



## Curves: Air performance 60 Hz Y



Measurement: LU-69123-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

|   | Wired | U   | f  | n                 | P <sub>e</sub> | I    | qv                | p <sub>fs</sub> | qv   | p <sub>fs</sub> |
|---|-------|-----|----|-------------------|----------------|------|-------------------|-----------------|------|-----------------|
|   |       | V   | Hz | min <sup>-1</sup> | W              | A    | m <sup>3</sup> /h | Pa              | CFM  | inH2O           |
| 1 | Y     | 400 | 60 | 2950              | 160            | 0.26 | 1870              | 0               | 1100 | 0.00            |
| 2 | Y     | 400 | 60 | 2850              | 177            | 0.28 | 1720              | 50              | 1010 | 0.20            |
| 3 | Y     | 400 | 60 | 2810              | 184            | 0.29 | 1485              | 100             | 875  | 0.40            |
| 4 | Y     | 400 | 60 | 2805              | 184            | 0.29 | 1200              | 140             | 705  | 0.56            |

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase

